

Appl. No. : 10/631,921
Filed : July 31, 2003

SUMMARY OF INTERVIEW

Exhibits and/or Demonstrations

None

Identification of Claims Discussed

Claims 1-25

Identification of Prior Art Discussed

Okumura and Admitted Prior Art

Proposed Amendments

None

Principal Arguments and Other Matters

Disclosures of prior art with respect to subject application and currently pending claims was discussed.

Results of Interview

Applicant's representative agreed to provide formal response to further distinguish claimed invention over prior art of record.

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REMARKS

Firstly, the Applicant would like to thank the Examiner of extending the courtesy of a personal interview to the Applicant's representative James W. Ausley on February 3, 2005. During the interview, the disclosure of the Applicant's admitted prior art as well as the Okumura reference was discussed. As indicated during the interview, the Applicant has further considered the invention as claimed and herewith submits further amendments to the claims of the subject application which the Applicant believes distinguishes the combined teaching of the prior art of record..

As discussed in the subject application as well as in the interview, a concern addressed by the subject invention is the problem of undercutting at the local interconnect particularly during etching processes to remove excess material outside the bounds of the local interconnect. More particularly, the Applicant's have found that the described and claimed process of selectively transforming a refractory material with an adjacent silicon rich source layer in a nitrogen containing ambient such that the refractory material is selectively transformed into a refractory silicide in the local interconnect region and to a refractory nitride in the remaining or excess regions followed by a wet etch process selective for removal of the nitride and much less reactive to silicide significantly decreases the magnitude of the undesirable undercutting thereby substantially maintaining the desired electrical contact properties of the local interconnect, for example to the gate stack. The Applicant notes that the claimed process of "...depositing a refractory material on the integrated circuit so that the refractory material contacts the exposed portion of the source layer of the gate stack and so that the refractory material is positioned on another device of the integrated circuit; forming a masking layer over the refractory material; etching the masking layer so as to define an extent of the local interconnect; selectively transforming the refractory material underneath the etched masking layer including at the exposed portion of the source layer into a low resistance contact between the refractory material and the source layer such that electrical contact between the refractory metal and the at least one conductive level occurs through the source level and wherein the source layer provides transforming atoms to the portion of the refractory material positioned adjacent the exposed portion of the source layer; and performing a selective removal process wherein portions of the refractory material beyond the masking layer are preferentially removed and wherein the

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transformed refractory material underneath the masking layer is preferentially unresponsive to the selective removal process” (Claim 1 as currently amended) is not taught or suggested by the Applicant’s admitted prior art, the Okumura reference, or the Yoo reference as well as the other art of record taken independently or in combination.

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SUMMARY

Based upon the foregoing reasons, the Applicant believes that Claims 1 and 20 are now allowable over the art of record and further submits that the remaining claims define additional patentable subject matter and are also allowable due to their respective dependencies on Claims 1 and 20. The Applicant therefore believes that the above-captioned application is now in a condition for allowance and requests the prompt issuance of a Notice of Allowability. Should there be any impediment to the prompt allowance of the application that could be resolved by telephone conference, the Examiner is respectfully requested to give the undersigned a call at the number shown below.

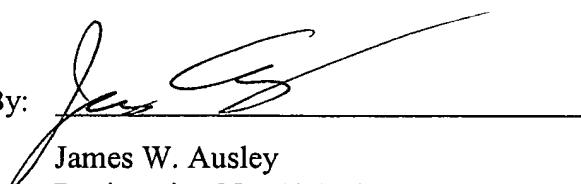
Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 2/22/05

By:



James W. Ausley
Registration No. 49,076
Agent of Record
Customer No. 20,995
(951) 781-9231